November 19, 2021
Public Service Commission
P.O. Box 7854
Madison, WI 53707-7854
Re: Quadrennial Planning Process IV, Docket No. 5-FE-104

On behalf of RMI, we respectfully submit these comments in Docket No. 5-FE-104.

About RMI: RMI (formerly Rocky Mountain Institute) is an independent, non-partisan, non-profit organization whose mission is to transform the global energy system to secure a clean, prosperous, zero-carbon future for all. Since our founding in 1982, we have grown to over 400 staff working on four continents with a global reach. Our initiatives include researching the business models, policies, technologies, and financing mechanisms necessary to advance an equitable clean energy transition.

Introduction & Summary: As the Commission scopes the Quadrennial Planning IV proceeding, it must consider how to bring Focus on Energy into alignment with Wisconsin's climate commitments by centring efficient, electric appliances alongside building efficiency and weatherization as solutions to affordable, climate-aligned, healthy Wisconsin buildings. This docket should prioritize aligning Focus on Energy's investments with the state's carbon reduction goals by supporting the adoption of efficient electric heat pumps alongside weatherization and building efficiency measures and eliminating barriers for low-income and rural customers. **RMI supports Alternative Two: Approve the scope of the Quad IV planning process with modifications.** Overall, RMI believes the three-phase scope as proposed is broadly appropriate, but we propose four additions to the scope.

- **Address the implementation of the Energy Prioritization Law (EPL):** The EPL mandates the state to prioritize efficient, non-combustible, and affordable energy sources. The Commission should prioritize incentives for zero-carbon new construction.
- should consider how this law should be accounted for when addressing appliance incentives in this proceeding.
- **Include Health Impacts in Cost-Effectiveness Test:** Combustion of fuels in Wisconsin's buildings has serious and documented health impacts for the community.[1] [2] The Commission should consider accounting for the long-term health impacts of appliances in the cost-effectiveness test.
- **Reconsider Future of Gas Appliance Incentives:** Continuing to subsidize fossil fuel appliances will make it more difficult and expensive to decarbonize the economy. The Commission should explore Focus on Energy's role in continuing to invest in fossil fuel appliances.
- **Support Comprehensive Low and Moderate Income (LMI) Retrofits:** To reach a broader set of customers and better leverage Focus on Energy's resources, the Commission should consider how it can stack funding with other state programs to provide comprehensive retrofit services for LMI residents.

The Commission is empowered, under its existing statutory authority, to act on each of these issues in order to ensure Wisconsin's energy transition realizes the economic and environmental benefits of decarbonization while maintaining energy reliability and affordability for Focus on Energy customers.

[1] https://rmi.org/health-air-quality-impacts-of-buildings-emissions/#WI
[2] https://rmi.org/insight/gas-stoves-pollution-health/

Phase 1: Macro Policies and Priorities: RMI broadly supports the measures included in Phase 1. In this section, we provide comment on why each area of focus is important, propose priorities for each area of focus within Phase 1, and suggest an addition to Phase 1.

1. **Alignment of Focus on Energy performance goals and program offerings with decarbonization goals:** The Commission should prioritize aligning Focus on Energy's performance goals to achieve Governor Evers' commitment to uphold the goals of the Paris Agreement. Given the scale of this commitment, the Commission must work quickly to address decarbonization during this planning cycle. During this process, the Commission should focus on how it's programs can support eliminating the direct combustion of fossil fuels in buildings. The direct combustion of fossil fuels in buildings accounts for roughly 15% of all energy-related emissions in Wisconsin. Governor Evers' climate goals require eliminating the direct combustion of fossil fuels of over 47,000 homes per year between 2022 and 2050.[3] However, since the year 2000, these emissions have not declined, indicating that existing energy efficiency programs are insufficient to dramatically reduce these building emissions.

   The Commission's efforts to reduce these emissions should focus on pairing electric heat pumps with other efficiency measures (we will refer to this as 'building electrification' throughout this document). As seen in figure 1, decarbonizing the electricity grid is not enough to meet climate goals. If Wisconsin can achieve full electricity decarbonization by 2050, with no dedicated efforts to pursue building electrification, the state only achieves a 20% emissions reduction. However, if programs like Focus on Energy can encourage at least 50% of building to electrify with efficient heat pumps, this number rises to 50% emissions reduction. As the energy efficiency administrator, Focus on Energy is a key lever to addressing the state's building stock emissions.

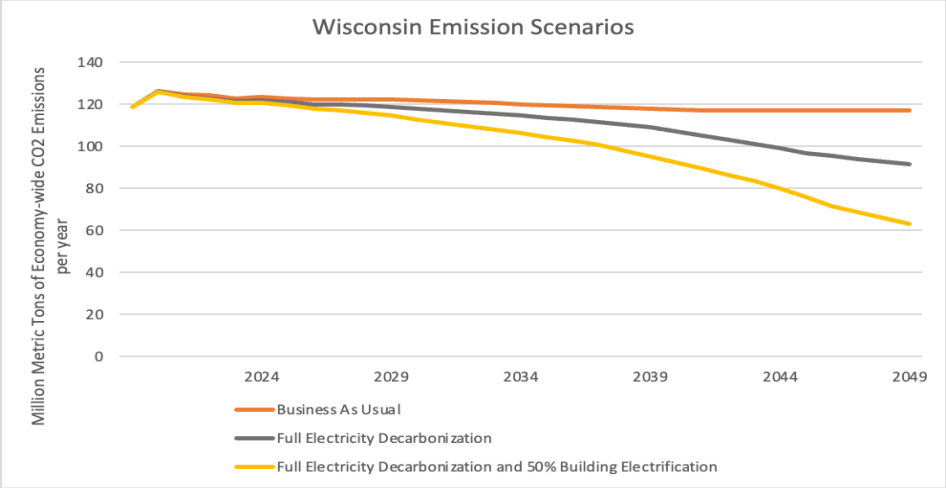

Figure 1: Internal RMI analysis. Annual CO2 Emissions in Wisconsin for three scenarios. Business as Usual represents a BAU model for the electricity and building sector. Full Electricity Decarbonization represents emissions if Wisconsin reaches 100% decarbonized electricity by 2050 with minimal building electrification adoption. Full electricity decarbonization and 50% building

[3] https://rmi.org/insight/the-impact-of-fossil-fuels-in-buildings
The statistic that 60,000 households need retrofits annually was calculated by dividing the total number of WI homes using fossil fuel as their primary heating source by the number of years between 202 and 2050. We assume 70% of 60,000 households exist in 2050.

electrification represents where Wisconsin reaches 100% decarbonized electricity and 50% of buildings are electrified by 2050. All scenarios assume no significant changes to industry, transportation, and agriculture.

2. **Electrification programs and offerings:** Electrification, switching from combustion equipment to efficient, electric alternatives, presents an opportunity to eliminate direct emissions in buildings from over 80% of households in Wisconsin. Heat pumps are an efficient modern technology capable of heating and cooling buildings while eliminating onsite emissions and can leverage power sector decarbonization to reduce emissions economy-wide. When paired with efficient building envelopes, heat pumps are also cost-effective in key applications. Alternative building decarbonization pathways, focused on biomethane, synthetic methane, and hydrogen, are unlikely to address building emissions at scale, given the limited supply of biomethane and high costs of synthetic gases, as found by the American Gas Foundation,[4] Sierra Club,[5] and the Natural Resource Defense Council.[6] Electrification can scale to meet state building needs while delivering benefits for the health and economy of Wisconsin communities. When considering the electrification programs and offerings of Focus on Energy, the Commission should consider the following:
    a. **Prioritize Electric Appliances over Fossil Fuel Appliances:** Modern electric heat pumps can provide comfortable heating and cooling to Wisconsin homes and businesses without producing on-site emissions. The EPA announced that gas appliances are no longer eligible for Energy Star's top efficiency rating, signaling a growing acknowledgment of gas' diminished role in a clean energy future.[7] Wisconsin's law also establishes a priority requirement that should encourage heat pump adoption – Wisconsin's Energy Priorities Law holds that: "In meeting energy demands, the policy of the state is that, to the extent cost-effective and technically feasible, options be considered based on the following priorities, in the order listed: (a) Energy conservation and efficiency. (b) Noncombustible renewable energy resources. (c) Combustible renewable energy resources. (d) Nonrenewable combustible energy resources."[8] Because heat pumps installed today are more efficient than fossil appliances, will be powered over their lifecycle increasingly by noncombustible renewable electricity, are technically feasible, and are cost-effective in key applications, heat pumps merit prioritization in Focus on Energy programs. Other states have found success carving out incentives for electric appliances. For example, Efficiency Maine has incentivized over 60,000 heat pumps by providing up to $1,200 in incentives.[9]
    b. **Clarify Propane Fuel Switching Incentives:** While Focus on Energy has clarified that incentives for fuel switching from natural gas to electric and from electric to natural gas is allowed, this proceeding should resolve the matter of fuel switching from propane and other fuels. This process can help achieve the state's goals by explicitly allowing incentives for switching from propane, fuel oil, and diesel to electricity within the Focus on Energy, thus making it possible to claim energy savings and provide meaningful program offerings and incentives for these switches.

[4] https://gasfoundation.org/2019/12/18/renewable-sources-of-natural-gas/
[5] https://www.sierraclub.org/maine/blog/2020/07/sierra-club-report-myth-renewable-natural-gas
[6] https://www.nrdc.org/experts/merrian-borgeson/report-renewable-gas-pipe-dream-or-climate-solution

[7] https://grist.org/energy/natural-gas-appliances-not-eligible-for-energy-star-top-rating/
[8] Wis. Stats. 1.12(4)
[9] https://www.efficiencymaine.com/how-the-efficiency-maine-trust-is-saving-consumers-and-businesses-billions/

c. **Target New Construction:** To decarbonize Wisconsin in a cost-effective manner, the state must ensure that all new buildings are compatible with a zero-emissions future. Building new, inefficient, and gas-dependent buildings today would effectively "lock in" emissions far into the future or require an expensive near term retrofit to reduce GHG emissions in line with Governor Evers' climate goals. Additionally, all-electric new construction for single-family homes has a lower net present cost than mixed-fuel homes because heat pumps are highly efficient, and the building developer avoids gas infrastructure costs.[10] The Commission should prioritize incentives for zero-carbon new construction.

d. **Provide Comprehensive Retrofits:** Nationally, 70% of all buildings that exist today will still exist in 2050 making retrofits a critical part of decarbonizing buildings.[11] Despite this, Focus on Energy's retrofit programs are not reaching enough households and are limited in scope. A whole-home retrofit requires four basic measures: health and safety, weatherization and energy efficiency, appliance electrification, and energy assistance. The Commission should consider stacking funds and partnering with other state organizations, like the State Energy Office or the Division of Energy Services, to provide comprehensive retrofits in its offerings.

e. **Funding Opportunities:** Focus on Energy can increase funding for its current services and expand provided services to meet comprehensive retrofit needs by stacking funding. The Commission should coordinate with federal funding streams (e.g., WAP, LIHEAP, and DOE grants) and prepare a strategy to quickly leverage potential incoming federal funding. Focus on Energy will need to align qualification criteria and the application process to ensure residents can easily access all funding streams for retrofit services.

3. **Programs and offerings for LMI customers:** Carbon emissions and air pollution from fossil fuel appliances disproportionately are more likely to live in poorly ventilated and weatherized homes with inefficient appliances.[12] Comprehensive retrofits that address housing quality alongside decarbonization measures provide significant household benefit, but the current retrofit programs available to LMI communities, like Focus on Energy, lack funding, aren't comprehensive, and pose obstacles to full participation. Weatherization and efficiency often don't cover critical interventions to homes such as lead removal and mold or asbestos mitigation as well as structural repairs that impact housing quality and may be more pressing for families. To support affordable, safe, and healthy homes, retrofit programs should provide a full range of home retrofit services: health & safety, weatherization, efficiency, appliance electrification, and energy assistance. Without comprehensive retrofit options, LMI households are often barred from leveraging Focus on Energy's' resources because they must first address health and safety concerns before they have access to efficiency interventions. Wisconsin's neighbors, Illinois and Minnesota, have addressed this by carving out funding for comprehensive LMI retrofits through the Climate and Equitable Jobs Act and the Energy Conservation and Optimization Act, respectively.[13] [14] The Commission should consider how the Focus on Energy program, as the leading efficiency program in Wisconsin, can provide comprehensive retrofits to LMI communities by stacking funds with programs like WAP or LIHEAP.

4. **Collaboration between Focus on Energy and Utility Demand Response Programs:** The Commission should prioritize demand response programs now to minimize long-term grid impacts.

[10] https://rmi.org/all-electric-new-homes-a-win-for-the-climate-and-the-economy/
[11] https://architecture2030.org/existing-building-actions/
[12] https://www.science.org/doi/10.1126/sciadv.abf4491
[13] https://ilcleanjobs.org/wp-content/uploads/2021/03/CEJA-Overview.pdf
[14] https://www.mwalliance.org/blog/minnesota-passes-eco-act-modern-and-expansive-update-its-ee-framework

New electric space and water heating equipment installed through building electrification programs offers the opportunity for more flexibility in electricity demand. Modern heat pumps – especially heat pump water heaters – provide customers with flexibility in energy consumption and can serve as a grid resource. This is a cost saving opportunity for customers and utilities as it can mitigate the need for additional electricity infrastructure and reduce peak load.

5. **Utility Voluntary Programs:** The Commission should clarify Focus on Energy's role in promoting and administering voluntary utility programs. To not create market confusion, voluntary programs must either target different markets and products from the main Focus on Energy programs or be used to support existing Focus on Energy efforts with incremental funding.
6. **Reconsider Future of Gas Incentives:** The Commission should reconsider the role of fossil fuel appliance incentives and subsidies in Focus on Energy programs. Gas and delivered fuel appliances produce harmful indoor pollution and carbon emissions that block the state from reaching its climate goals and harm community health. These negative impacts are locked in for 15 years or more when a customer installs a new fossil fuel appliance. The Commission should begin scoping how gas appliances can be phased out of the program now to ensure Focus on Energy aligns with long-term state carbon goals.

Phase 2- Micro Implementation Decisions and Cost-Effectiveness Decisions: RMI broadly supports the measures included in Phase 2. In this section, we provide comment on why each area of focus is important, propose priorities for each area of focus, and suggest additions to phase 2.

1. **Micro Implementation Decisions:** RMI supports the measures for micro implementation decisions as outlined in the current scope. The Commission should consider a few key points:
   a. **Evaluate other state models:** Focus on Energy should evaluate other cold-climate state models that center efficient, electric appliances when determining how to maximize customer and energy savings alongside climate and health benefits. MassSave and NYSERDA provide successful examples of implementing impactful heat pump incentives.[15]
   b. **Consider how Focus on Energy will implement the states' Energy Priorities Law (EPL):** As outlined above, the EPL mandates that state policy prioritizes efficient, non-combustible energy sources. A robust discussion on how to implement this law into Focus on Energy is necessary to ensure the program is aligned with state law.
   c. **Focus on Rural Areas:** A majority of delivered fuel customers live in rural areas in Wisconsin.[16] Customers who switch from delivered fuels to electric heat pumps can save about $475 annually on their utility bills.[17] Rural customers pose an opportunity for high-savings retrofits alongside impactful health and climate saving. The Commission should explore how it's offering currently service these customers and address any barriers to their participation.

Cost Effectiveness Decisions: RMI supports the measures for cost effectiveness decisions as outlined in the current scope, but the Commission should consider four key points:

a. **Health Impact Costs:** Outdoor air pollution from burning fuels in buildings led to $5.2 billion in health costs from premature deaths for Wisconsin in 2017.[18] The Commission should

[15] https://www.nyserda.ny.gov/About/Newsroom/2021-Announcements/2021-04-12-NYS-Clean-Heat-Members-Announce-Nearly-10-Million-Consumer-Education-and-Awareness
[16] https://epa.maps.arcgis.com/apps/webappviewer/index.html?id=044e6d58b4f045bf9059cba0a76d059b
[17] https://www.rewiringamerica.org/policy/bringing-infrastructure-home-report
[18] https://rmi.org/health-air-quality-impacts-of-buildings-emissions/

consider accounting for the long-term health impacts of appliances in the cost-effectiveness decision.

b. **Carbon Value:** RMI approves of including carbon emissions in the cost-effectiveness tests and encourages the Commission to consider a lifetime approach. The Commission should also include estimates of methane leakage on a CO_2-equivalent basis.
c. **Discount Rate:** The Commission should consider how discount rates might impact the cost-effectiveness test of energy efficiency interventions that are needed to meet climate goals.
d. **Avoided Transmission and Distribution (T&D):** RMI supports the inclusion of avoided T&D costs and encourages the Commission to ensure that this is inclusive of fossil fuel infrastructure such as natural gas pipelines.

Fully addressing these topics will ensure that the cost effectiveness decisions are equitable across technologies. Wisconsin can look at other cold-climate efficiency programs across the country, like MassSave and NYSERDA, for leading examples of implementation and cost-effectiveness studies.[19] [20]

Conclusion: Aligning Focus on Energy's investment priorities with the state's carbon reduction goals, prioritizing efficient electric heat pumps alongside building envelope efficiency, and eliminating barriers to access for LMI and rural customers, will allow the Commission to develop a climate-aligned program while fulfilling its statutory responsibilities under Wisconsin's Energy Priorities Law.

Sincerely,

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[19] https://www.nyserda.ny.gov/-/media/Files/Programs/Commercial-Property-Assessed-Clean-Energy/Guidance-Calculating-Cost-Benefit-Ratio.ashx
[20] https://ma-eeac.org/wp-content/uploads/Exhibit-1-Three-Year-Plan-2022-2024-11-1-21-w-App-1.pdf